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Development of cognitive competence and constructive patterns of motivation and behavior in the disadvantaged child are the topics of this paper. Five subjects are explored: (1) the potency of models, (2) social reinforcement, (3) intensive relationships, (4) group forces, and (5) superordinate goals. The first two subjects cover basic processes which influence the behavior and development of the child, while the last three subjects examine the social context in which these processes can be effectively evoked. The author proposes concrete examples of innovative and unconventionally research that could be attempted in all environments and which would substantially advance progress in education of the disadvantaged. (DO)

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MOTIVATIONAL AND SOCIAL COMPONENTS IN COMPENSATORY EDUCATION PROGRAMS

SUGGESTED PRINCIPLES, PRACTICES, AND RESEARCH DESIGNS[1]

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I. The Problem

It is now generally recognized that the problems of the disadvantaged child cannot be viewed solely in terms of impaired intellectual functioning. Such a child has been deprived not only of congitive socialization but of socialization across the board. Thus he has been prevented from developing not only the intellectual skills but also the motivational characteristics and patterns of behavior that permit successful and satisfying participation in the larger society. Among these are the development of a sense of control over one's environment, the capacity to defer immediate for later gratification, skills in working cooperatively with others, patterns of socially responsible behavior, and techniques for non-destructive resolution of personal and interpersonal problems. Unless the disadvantaged child is given the chance to develop these qualities as well, even the acquisition of cognitive competence may still leave him incapable of functioning as a productive, cooperative member of the community, for whom he remains an economic and social burden, if not a physical threat. Moreover, many of these

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[1]The ideas expressed in this working paper represent the implications for educational practice, as the author sees them, of recent research by a number of different investigators on the role of social factors in psychological development. For references to and discussion of the original studies on which this paper is based, see Bronfenbrenner, U. 1967.

The author has also drawn heavily on his experience as a member of the Planning Committee and of the Research Advisory Board for Project Head Start.

[2]The present document represents a revised draft incorporating suggestions made by a small working group brought together by the U.S. Office of Education to discuss the original version. Members of the group included: John Condry, David Cohen, James Coleman, Francis Palmer, Judith Crooks, Leonard Berkowitz, Gordon McAndrew, Lawrence Wyat, Robert Egbert, Jules Sugarman, Richard Snyder.

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motivational qualities and modes of response are essential for a child to be able to learn in school or to use and further develop such cognitive abilities and skills as he already possesses.

For these reasons, any program seeking to meet the educational needs of disadvantaged children must address itself not only to the development of cognitive competence but also of patterns of motivation and behavior appropriate to a productive, cooperative society.

The present paper examines the possibilities for implementing this broadened objective in the light of available evidence from research in child development and related fields. It seeks to identify the major principles underlying methods for developing constructive motives and behaviors in children, to illustrate how these principles might be applied in practical educational programs, and to call attention to possibilities and problems of research design for evaluating the effectiveness of particular procedures.

Our focus on the motivational and social components of compensatory programs should not be construed as reflecting reduced priority for purely cognitive concerns. Rather cognitive, motivational, and social aspects are seen as complementary and essential to one another. Thus the principles and procedures here proposed are intended to be combined with and to reinforce the effectiveness of more traditional, instructional aspects of educational programs.

II. Principles and Possibilities

A review of the available research evidence in child development, social psychology, and related fields points to several general forms of environmental intervention which appear to be especially effective in influencing the behavior and development of children. These forms, which are closely interrelated, are conveniently discussed under five general headings: A) The Potency of Models; B) Social Reinforcement; C) Intensive Relationships: D) Group Forces; and E) Superordinate Goals. Under the first two headings, we describe briefly some

basic processes involved in influencing the behavior and development of the child. Under the last three headings, we examine the social contexts in which these processes can be most effectively evoked and maximized.

A. The Potency of Models

The implications of contemporary research in this area can be summarized in six general statements:

1. Behavior change can be facilitated by placing the child in an environment in which he is exposed to models exhibiting the desired behavior pattern at a level which the child can emulate with some degree of success.

2. The model can influence the child's behavior in two ways:

   a. By doing something which the child has never experienced before, thus inducing him to engage in new patterns of behavior.

   b. By doing something already in the child's repertoire, thus inducing him to engage in this particular behavior rather than in some other activity.

   In terms of its long range impact on the child's behavior and development; the second of these influences is perhaps even more important than the first.

3. The potency of the model to induce behavior is considerably enhanced when the persons exhibiting the behavior are people with whom the child feels a strong emotional involvement, in particular his parents, playmates, and older children or adults who play a prominent role in his everyday life.

4. Although mere exposure to the model exhibiting a new pattern of behavior can lead to the induction of that behavior in the child, the optimal condition for learning from a model is one in wich the child is engaged in increasingly more complex patterns of reciprocal interaction with the model -- for example, conversation that gradually invokes wider vocabulary and complexity of structure, games involving progressive development of basic skills, etc.

5. The inductive power of the model increases with the extent to which the model is perceived as having high status and control over resources. For example, experiments have shown that children are more likely to emulate a person who can grant presents or privileges than one who is the recipient of such benefits.

6. The inductive effect increases markedly when the behavior in question is exhibited not merely by a single individual but represents a salient feature in the actions of a group of which the child already is or aspires to be a member. Thus the child will tend to adopt patterns of behavior that are prominently engaged in his family, by his classmates, the neighborhood gang, older children whom he admires, etc.

Before examining the implications of these principles, it is useful to acquaint ourselves with a second, closely related strategy for evoking behavior change which does not require the presence of an external model although it can use such models to great advantage when they are available. In effect, this strategy uses the child's own behavior as a model to be improved upon through intensification and further development of that behavior.

B. Social Reinforcement

Other people can influence the child by serving not only as models but as reinforcing agents; that is, by giving affection, approval, or providing some other gratifying experience when the child exhibits the desired behavior, (even if only in crude form), it is possible to increase the frequency and precision of that behavior on the part of the child. In recent years psychological research has revealed that the range and variety of stimuli which can serve as reinforcers for a child extend well beyond conventional conceptions of reward or approval. For example, investigators have demonstrated that vocalization in infants can be significantly increased by such seemingly inconsequential acts as a smile, a touch of the hand, a movement of the head, or a barely audible clucking noise. It is significant that these are precisely the ways in which mothers, and other persons

dealing with young children, have responded from time immemorial to spontaneous activities on the part of their charges, provided the situation permitted dealing with the child on a one-to-one basis thus permitting frequent selective responses on the part of a reinforcing agent.

As in the case of modeling, the potency of reinforcement is increased as a function of the child's emotional attachment to the person giving the reinforcement, so that once again the child's parents, friends, and intimate associates emerge, at least potentially, as the most important agents for motivating the child's behavior and development. And again as in the case of modeling, the potency of the reinforcing agent increases with the extent to which he is perceived as having high status and control over resources.

But it is where reinforcement can be combined with modeling that it can have its maximal impact. One way of exploiting this joint effect is to employ reinforcing stimuli which simultaneously serve as models of the behavior to be learned. Thus one of the most efficient procedures for developing the young child's capacity for communication is to respond to his spontaneous utterances with ordinary conversation at gradually increasing levels of complexity.

In the preceding example, the model and the reinforcer are the same person. But once a child becomes conscious of his social world, still another advantageous mix of these two strategies becomes possible. This is the technique of so-called vicarious reinforcement in which the person reinforced is not the learner (i.e. the child) but the model. Researchers have demonstrated, for example, that rewarding the model for exhibiting a particular behaviour pattern increases the frequency of that behaviour in a child observing the model. In addition, the reinforcing power of the model is also enhanced. In other words, if we wish to maximize the development of a particular skill or behavior in the child we do well to reinforce not only the child himself, but also the models manifesting the desired behavior, who in turn would also reinforce the child.

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We see here an illustration of the special leverage provided by a cooperative effort, that is, a group process, in producing behavior change, a topic to which we shall return shortly. But first we must take note of a possible problem in the use of reinforcement as a technique for facilitating learning.

Effective reinforcement requires discrimination on the part of the reinforcer. His response must be contingent upon manifestation of the desired behavior on the part of the child. If he rewards the "wrong behavior" or if he simply provides generalized gratification unrelated to particular activities of the child, there will be no increase in the desired behavior. As we shall see, this lack of appropriately discriminating response presents a problem in the everyday world of the disadvantaged child, but also suggests possibilities for counteractive measures.

The foregoing comment calls attention to the importance of social context for the effective operation of such processes as modeling and reinforcement. We turn next to a consideration of this problem.

C. Intensive Relationships

In our discussion both of modeling and reinforcement we noted that the most potent agents for each of these processes were persons with whom the child has developed intensive and enduring relationships; typically his parents,relatives, and other persons, both children and adults, with whom he becomes closely involved on a day-to-day basis. We consider next some evidence bearing on this issue and its implications for educational practice.

There is a substantial body of data demonstrating the powerful effect of parents as models in shaping the behavior and psychological development of the child. The evidence is as eloquent in negative as in positive instances. Thus the difficulties of the disadvantaged child upon entry into school have been traced by a number of investigators to lack of stimulation, both cognitive and motivational, in his home environment. But, at the same time, other studies show

that where conditions permit forming and maintaining an intensive relationship with the child, even a presumably inadequate mother can do a great deal for the development of a seriously deprived child. The most dramatic evidence on this score comes from Skeels's remarkable follow-up study of two groups of mentally retarded, institutionalized children who constituted the experimental and control groups in an experiment which Skeels had initiated thirty years earlier. When the children were three years of age, thirteen of them were placed in the care of female inmates of a state institution for the mentally retarded, with each child being assigned to a different ward.

A control group was allowed to remain in the original, also institutional environment -- a children's orphanage. During the formal experimental period, which averaged a year and a half, the experimental group showed a gain in IQ of twenty-eight points (from 64 to 92), whereas the control group dropped twenty-six points. Upon completion of the experiment, it became possible to place the institutionally-mothered children for legal adoption. Thirty years later, all thirteen children in the experimental group were found to be self-supporting, all but two had completed high school, with four having one or more years of college. In the control group, all were either dead or still institutionalized.

Other studies, less dramatic but with larger samples, point to similar conclusions. For example, shifting attention from the mother to the father, a number of widely scattered investigations, both in this country and abroad. document the debilitating effects of father absence on the psychological development of children, boys in particular. In general, frequent or total absence of the father appears to contribute to low motivation for achievement, inability to defer immediate for later gratification, low self-esteem, susceptibility to group influence, and juvenile delinquency -- an array of problems highly characteristic of the disadvantaged child.

Regrettably little work has been done on the specific influence on the child's behavior and development of other family members or intimate associates -- such as a sibling, grandparents, close friends, or older children and adults. But there is every reason to expect that their potency as models or reinforcers will be a direct function of the intensity of the child's association and emotional involvement with them.

The foregoing discussion carries a number of provocative implications for compensatory programs. To begin with, it suggests that insuring a high level of expertise in the persons dealing directly with the child may not be as critical for furthering the child's psychological development as creating possibilities for those who are potentially the most powerful influences in the child's life, his parents, friends and immediate associates, to realize their potential.

Putting the issue in this way makes clear that the matter is not so simple. Some level of "expertise" on the part of the "teacher" is obviously essential if the child is to learn the skills, behaviors, and motives necessary to cope successfully with his environment. It is precisely these skills, behaviors, and motives that must be exhibited in the behavior of the persons surrounding the child and be reinforced by them. And the research ordinance indicates that this is precisely what <u>does not happen</u> in the day-to-day world of the disadvantaged child. His parents and other intimate associates typically do not exhibit an adequately high level of the behaviors and motives which the child most needs to learn. Nor do they sufficiently often reinforce such behaviors when they are exhibited by the child or by others in his environment. It is not that the disadvantaged child receives insufficient attention from his parents and other close associates,but that this attention is not appropriately discriminating. Often it is so generalized and diffuse as to have no impact in selective reinforcement; on other occasions it is differentially responsive not to the expressions of the child's constructive capacities (e.g. exploratory behavior, vocal expressiveness,

curiosity) but his passive reactions (praising him when he is quiet or inactive) or disruptive behavior (e.g. paying attention to the child principally when he is "making trouble").

This brings us to an important question. Is the problem that persons in the day-to-day environment of the disadvantaged child cannot engage in behavior appropriate to his needs because they lack the requisite ability or skill? Or are they capable of such behavior but simply do not engage in them because they are not motivated to do so?

Undoubtedly both considerations are operative to some degree, but the available evidence suggests that the second factor is much more important than the first. For example, we read in Skeels' account that the mentally-retarded "mothers" in the institution "spent a great deal of time with 'their children', playing, talking, and training them in every way. The children received constant attention and were the recipients of gifts; they were taken on excursions and were exposed to special opportunities of all kinds." Nor were the mothers themselves without models and reinforcers, for the ward attendants also spent "a great deal of time" with the children, and the matron in charge introduced "new play materials, additional language stimulation," and other special experiences.

In other words, given motivation, opportunity, and exposure to the kinds of activities that are enjoyable and instructive for young children, parents and other close associates of children from disadvantaged backgrounds can do a great deal to further the psychological development of the child in their midst.

There is a second and even more compelling reason for actively involving parents and other persons close to the child in the compensatory program. We have noted that models are influential not only in instigating new behavior patterns but also in determining which patterns already in the child's repertoire

are activated and maintained and which are allowed to become extinguished. As the most powerful models for the child, parents and other intimate associates thus become not only the most important potential agents for bringing about change in the child's behavior, but also the principal figures who maintain established patterns of activity (whether adaptive or non-adaptive), and who, insofar as they fail to expose the child to constructive experiences, prevent him from realizing his full potential. In short, it is the parents and other close companions of the child who are the primary determiners not only of what the child learns, but what he fails to learn.

It follows that <u>any appreciable, enduring improvement in the child's development can be effected only through an appreciable enduring change in the behavior of the persons intimately associated with the child on a day-to-day basis</u>.

How can such a radical change be brought about? For answers to this question we turn to a second kind of social context in which the processes of modeling and reinforcement can thrive -- namely, a structure extending beyond an intensive relationship between two people to include groups of persons sharing a common identity.

D. Group Forces

There are two ways to effect a change in the behavior of persons in the child's environment. The first, and clearly the more difficult, is to try to modify the actions of those who constitute the principal figures in the child's world as it already exists. The second is to introduce into that environment persons who can serve as appropriate models and reinforcers, and who stand some chance of being able to develop an enduring, intensive relationship with the child. The most obvious person who comes to mind in this second connection is the teacher. It is, of course, possible for a teacher or other specialist to establish a personal relationship with a child, but in a large class, such possibilities are limited, and even when they occur, there are usually other persons in the child's life who have greater weight, particularly in their collective impact.

But the teacher and her associates are not the only important figures in the child's school experience. There are also his classmates, and recent research indicates that these have far greater consequence for the child's development - intellectual, emotional, and social - than we have hitherto recognized. For example, the Coleman report revealed that how well a child did in school depended less on educational facilities or qualifications of the teacher than on the characteristics of the child's schoolmates; i.e., their abilities, interests, and aspirations. Subsequently, a further analysis of national survey data, cited in the 1967 Report of the U.S. Commission on Civil Rights, showed that the beneficial effect for a disadvantaged child of being in a class with non-disadvantaged pupils increased substantially with the proportion that such non-advantaged represent of the class as a whole. Thus those disadvantaged children who were gaining the most academically were attending classes in which the majority of pupils came

from white middle class families. Moreover, these gains were substantially greater than any attributable to teacher characteristics or quality of instruction, a finding which led the authors of the report to conclude that "changes in the social class or racial composition of schools would have a greater effect on student achievement and attitude than changes in school quality." (p. 100)

This conclusion provides but one illustration of the power of a group to modify the behavior of its members. Even though each classmate taken alone presents a less accurate model of the behavior to be learned and is a far less-skilled and less-motivated instructor than the teacher, the cumulative beneficial effect of being in a classroom with able, motivated pupils is substantially greater than what can be achieved by a single teacher. This result comes about not only because other class members serve as models and reinforcers of good performance but also because the child's dependence on the group, his desire to belong, serves as an additional motivating factor to behave like the others.

But what if the others are not performing or behaving very well? The processes of modeling, reinforcement, and group pressure for conformity are no less efficient. Non-adaptive or anti-social behavior is as readily communicated as competence or constructive action. For example, contrary to the great conclusion reached by Coleman, Pettigrew (1967), in a special re-analysis of some of Coleman's data, shows that white children in predominantly Negro schools perform on the average below comparable white children in predominantly white schools; furthermore, "those white children in predominantly Negro schools with close Negro friends" scored significantly lower on tests of verbal achievement than white pupils in the same school without "close Negro friends."

Analogous effects are being found in the sphere of social behavior as well. In a study still in progress involving forty sixth grade classrooms in a large

city, we find that the willingness of the rest of the class to engage in anti-social behavior (such as cheating on a test) is significantly increased by the presence of a small lower class minority (in this instance almost all white).

In other words, a strategy that relies principally on introducing into the world of the disadvantaged child middle class models from whom he can learn runs the risk that these models themselves may be adversely affected by the experience, not only in terms of lowered academic achievement but also increased anti-social behavior. In short, social contagion is a two way street.

The consequences of this proposition turn out to be equally troublesome as we return to a consideration of the already established social environment of the disadvantaged child -- his family, friends, older companions, etc. As a concrete example, let us consider a virtually untapped resource in compensatory programs, the use of older children from the neighborhood as tutors, escorts, play supervisors, etc. Although teen-agers from disadvantaged backgrounds exhibit some behavior (e.g. use of words in sentences) which the deprived child needs to learn, much might also be learned that would be negative in its impact, not only in the cognitive but even more in the emotional and social spheres. Similar considerations apply to the other actual and potential models from the child's day-to-day world. The amount of assimilable, competent or constructive behavior which they typically exhibit may be far too small, and heavily outweighed by non-constructive or even negative elements.

Fortunately, what is typical is not thereby inevitable. In the case of older children and adults, where some competence and capacity for constructive action already exist within the behavioral repertoire, it is possible to increase substantially the amount of such behavior that is actually exhibited by structuring the social situation so that it invites and demands such behavior. Contemporary research suggests that such a change can be accomplished by utilizing the motivating power of what Muzafer Sherif has called "superordinate goals."

E. Superordinate Goals

In the Robber's Cave Experiment Sherif demonstrated that it was possible to take groups of normal middle class twelve-year-old boys and, within the space of a few weeks, bring about a series of contrasting changes in their behavior. First he transformed them into hostile, destructive, anti-social gangs. Then, within a few days, they were changed into cooperative, constructive workers concerned with and ready to make sacrifices for other members of the community. Sherif's principle for bringing about this second, constructive change was involvement in what he called a superordinate goal -- an overriding problem extending outside the individual himself and requiring coordinated effort for its solution. For instance, shortly after hostile and destructive activities had reached their peak, Sherif announced to the boys, who were at a camp, that there was a leak somewhere in the water line and there could be no fresh water until the leak was found and repaired. Hatreds and hostilities were forgotten as the entire camp population cooperated to solve the problem.

An example directly relevant to our concerns comes from a Head Start Program operating in an urban slum. The problem was getting children to and from the center in a "tough neighborhood." Since not enough parents were available at the needed hours, the staff turned for help to the local gang -- the Golden Bombers. The resulting operation was a sight to behold as twice every day the Bombers, in "snap formation" proudly conducted their charges through heavy traffic with "complete protection." What is more, after seeing what was going on at the center, they volunteered to help by reading to the children, taking them on outings, etc.

The power of superordinate goals in mobilizing constructive group activities is also reflected in the success of Skeel's experiment. It was not only the intensive relationship between the child and his mentally retarded "mother" that is to be credited for bringing about the striking changes that occurred. As Skeel's

takes pains to point out, with the appearance of a young child needing care, not only each ward, including inmates, attendants, and head matron -- but the institution as a whole became involved in the enterprise (e.g. "There was considerable competition among wards to see which one would have its 'baby' walking or talking first.")

Indeed, we can now recognize that Skeel's experimental treatment involved all of the elements we have discussed as most potent for facilitating constructive behavior and development in children; that is, the modeling and reinforcement made possible by an enduring intensive relationship are enhanced by group commitment to a common superordinate goal -- caring for a little child.

It is the utilization of precisely this same superordinate goal which, in our view, offers the greatest promise for the design of effective compensatory programs. In our discussion up to this point we have repeatedly been confronted with the same problem: how to "turn off" the predominantly negative and counterproductive behaviors often exhibited by the most significant persons in the life of the disadvantaged child and to evoke, in their place, constructive behaviors of which these persons are actually capable. We now see that superordinate goals have the power of effecting exactly this kind of behavior change. Specifically, involving persons actually or potentially important to the child in pursuit of a superordinate goal can have the effect of maximizing the incidence and inductive power of constructive behaviors and motives while reducing disruptive and negative influences.

But is it possible to find a concrete superordinate goal that would have appeal for persons in the child's own environment and at the same time cut across such demonstrably divisive barriers as age, class, and color? We believe that such a common, potentially-strongly-motivating concern exists. It is represented by the central focus of the entire Follow Through program. That focus is the young child of poverty, whose need for help speaks out eloquently to all who see

him. In other words we are proposing that if we turn to any existing or potential segment of this child's world, be it his immediate family, his actual or possible classmates, older children or adults from his own neighborhood or from the other side of the tracks, and ask their cooperation in activities in behalf of the child, such cooperation will be given competently and conscientiously, provided that the nature of the requisite activity is clear and lies within the capability of the individual or group of whom it is requested. Moreover, the beneficial effect of such cooperative effort will be reflected not only in the child who is its target but also in behavioral and motivational changes in those who participate in the effort, the so-called advantaged no less than the disadvantaged. For though contemporary American middle class society and its children are not suffering effects of cognitive deprivation, they are by no means free from a variety of social and emotional ills, prominent among which are problems of apathy, alienation, and anti-social behavior.

III. CONCRETE PROPOSALS

We have now come to the point where we can suggest concrete proposals consistent with the principles outlined above. In connection with each proposed measure, we shall also comment on implications for research design.

Proposals are conveniently described under five headings representing the major contexts in which the child lives and, consequently, with which the Follow Through Program must be concerned: A. Classroom B. School C. Family D. Neighborhood E. Larger Community. The order is not one of priority but simply of convenience for discussion.

A. The Classroom

In its customary form, the classroom contains two major sources for influencing behavior and development --- the teacher, and the children themselves.

1. Potentialities in the Teacher's Role

Our discussion implies a broadened conception of the teacher's role. Not only must she herself function as a motivating model, but it becomes her responsibility to seek out, organize, develop and coordinate the activities of other appropriate models and reinforcing agents both within the classroom and outside. How this might be done will become apparent as we proceed.

There remains to note certain variations in the teacher's role which have been much talked about as beneficial to the disadvantaged child but still lack systematic evidence for their actual effectiveness. We refer here to the assertion that disadvantaged children are helped when their teacher is from a similar cultural background, same race, and, in the case of boys especially, same sex. It would be a simple matter to employ a research design in which such factors were counterbalanced so as to permit evaluation of the independent contribution of each to a variety of dependent variables including not only intellectual achievement but also motivational variables such as self-esteem, fate control,

helping behavior, etc. Furthermore, as a way of gauging the relative importance of social vs. intellectual characteristics of the teacher, it would be useful to include in the design measures of the teacher's cognitive competence (e.g. verbal achievement).

We defer consideration of the role and possible effect of other adult personnel in the classroom (e.g. parent volunteers, non-professional aides), since they are treated under subsequent headings.

2. The Socio-motivational Structure of the Classroom.

This is one of the most promising and least exploited areas for exploration. Two types of innovation are usefully distinguished: variations in classroom composition and in motivational structure.

a. Classroom composition. - To date variations have been examined or proposed primarily in terms of such gross demographic characteristics as social class and race. Although the evidence is persuasive that the most advantageous situation for the disadvantaged child is to be in a classroom with an advantaged majority, many important questions remain unanswered. To identify but a few:

1) All of the studies to date have been retrospective. Thus there remains the possibility that the observed results are a function of pre-selection (e.g. disadvantaged pupils attending majority-advantaged classes are initially superior to their so-called matched controls in majority-disadvantaged classes.) The confounding can be clarified only in an experiment permitting random assignment of disadvantaged children to one or another setting.

2) It is not clear whether the determining variables in these groupings effects are primarily social or cognitive. In other words, is it important that the majority actually be white and middle class, or simply that the most of the children exhibit good language skills, work habits, etc.

Resolution of this ambiguity would require a rather complex matching design.

3) In none of the studies to date has adequate attention been paid to differential effects associated with the sex of the child. Are boys and girls equally affected? Does it make any difference whether classes are segregated by sex? Does the sex of the majority matter? All of these questions are of practical importance in view of the special vulnerability to the effects of poverty of the Negro male child and the superior status of the female.

b. Motivational structure. - Although modifications in classroom competition can be expected to make a significant contribution to the development of the disadvantaged child, they by no means represent the most powerful resources at our disposal. Indeed, their potential is realized only to the extent that they facilitate development of the motivating processes (modeling, reinforcement, group commitment, involvement in superiordinate goals, etc.) which were outlined in the first section of this paper. Such development need not be left to chance. It can be directly fostered through setting up within the classroom the kinds of social and situational structures in which these processes thrive. This includes such devices as teams, group competition, organized mutual help patterns, etc., including the incorporation into such social units of different mixes of race, social class, sex, achievement level, and the like. The power of the group, including the children's group, in motivating goal directed activity in its members is well established in American social research, but the practical implications of this principle for education have thus far remained unexploited in this country. Where practical applications have been made on a broad scale, as in the Soviet Union, the effects have been impressive (see Bronfenbrenner, 1962,1967a), but unfortunately they continue to be justified primarily on an ideological rather than an objective, empirical basis. It, therefore, remains for

American educators and social scientists to reap the fruit of systematic application and evaluation of such promising innovations.

The problem, in terms of research design, is to avoid confounding among the many obviously relevant variables and manipulations. Under these circumstances, the strategy of choice is to begin with one or two variables, reserving complex interactions for later stages of experimentation. For example, one might start by examining the effectiveness of two-pupil teams of children of heterogeneous ability designated as partners or playmates and compare their progress with unpaired individuals or members of homogeneous pairs. Another possibility might focus on testing out the potency of group reinforcement by introducing into designated experimental classrooms such "customs" as group applause for correct answers, selection and honoring by classmates of members showing greatest individual progress, etc.

The potential of motivational structures will remain unplumbed and probably seriously underestimated so long as the participants in such structures are limited to the members of the conventional classroom with its homogeneous age grouping. Full exploitation of the possibilities of motivational structures can occur only when one can move beyond the classroom into the larger contexts of school and neighborhood.

B. The School

Extending available resources to include the school as a whole permits drawing on other teachers, and staff members as well as pupils from other age groups as cooperators in the educational enterprise.

The utility of other teachers is limited but important. Probably the most promising possibility in this regard is the principle of continuity in personnel from one level or year to the next. Thus it may be especially important for the

child's Head Start teacher to be able to continue on with him as he moves into kindergarten or first grade, especially during the first few weeks. Similar continuity in transition may be desirable during the first few weeks of each promotion. Since such continuity is likely to be possible for only a portion of the children in the class (some children having had another teacher the previous year) this circumstance could be exploited as a "natural experiment", although care would have to be taken to avoid confounding factors (such as a control group composed of children newly moved into the community).

An even more promising possibility which the total school offers in furthering the development of the child is the active involvement of older and, subsequently, younger children in the process. For the pre-schooler or primary-grader, an older child, particularly of the same sex, can be a very influential figure particularly if he is willing to spend time with his younger companion. Except for the occasional anachronism of a one-room school, this potential resource remains wholly unexploited in American education and, for that matter, in the process of general socialization as it usually takes place in our country. Opportunities for experimentation are therefore legion. One might begin with the practice followed in certain other countries of the world in which each preschool of primary class is placed under the "patronage" of an older class, with each little child being assigned an older "brother" or "sister" from the more advanced class. It becomes the responsibility of each older brother to get to know his younger "sib", and his family, to escort him to and from school, play with him and his friends, teach him games, and last but not least, become acquainted with his progress and problems in school, reading with and to him, helping and encouraging him to learn. In the meantime the patron class as a whole organized activities for their "ward class", including trips to athletic events, nature walks, camp-outs, museum visits, etc.

The foregoing examples illustrate how an enduring social situation can be created which simultaneously exploints all of the motivating process and social structures outlined earlier, for here the effects of modeling and reinforcement are enhanced in the context of intensive relationships, group membership, and common commitment to a superordinate goal.

An extension of this same principle points to the most important potential contribution of the school as a whole to the development of the disadvantaged child. Within the formal educational context, the school is the social unit with which the child, and those concerned for his welfare, can most readily identify. If the school as a total community becomes visibly involved in activities focussed on the disadvantaged child and his needs, if older children, school organizations, other teachers, school administrators, PTA's, if all these persons and groups in some way participate in the program and publicly support those most actively engaged in the effort, the reinforcing effect increases by geometric proportions. Conversely, if the program is confined to an isolated classroom, it is not only deprived of powerful reinforcing influences but risks the danger that the rest of the school, especially children in other classes, will perceive the "special class" in invidious terms (e.g. "the dummies") and treat its members accordingly. In this way the powerful influences of modeling, negative reinforcement, and group pressure act further to undermine the already unfavorable self-image of the disadvantaged child.

Similar considerations dictate the necessity of involving the child's family in the school's total educational effort. Before turning to this topic we call attention to a serious problem of research design in evaluating the effect of salient innovations such as those affecting an entire school.

Their public and often dramatic character invites diffusion of the experimental treatment into control group schools when these are located in the same or neighboring communities. The danger remains even when the control schools are carrying out equally dramatic alternative models, for so long as communication channels exist, there is the tendency for each group to be influenced by the other, thus decreasing the difference between them. One obvious solution for this problem is to set up experimental and control groups in similar communities that are far apart or in little contact with each other. Another less satisfactory device is to employ a sequential design with the control period preceding introduction of the treatment.

C. The Family

Today's Head Start programs typically profess strong commitment to the principle of family involvement, but in practice implementation is limited to two rather restricted forms: the first is the inclusion of some parents on the program's advisory board; the second involves meetings for parents at which staff members make presentations about some aspect of the program. Both of these measures have the effect of bypassing the most important aspect of family involvement -- engaging parents and older children in new and more mutually rewarding patterns of interaction with their children.

An essential first step in bringing about such changed patterns of interaction is exposure of the parent and other family members to them. This can be done at one of two places -- at the center, or in the home. The basic approach is one of demonstration -- showing the family the kinds of things that are done at the centers, which also happen to be things that family members can themselves do with the child -- e.g., games to play, books to read, pictures to look at and talk about, etc. Particularly valuable in this connection are activities that involve and require more than one person in patterns of interaction with the child; that is, not just the teacher (i.e., mother) but also other adults and older children (i.e., father, grandma, brother, sister). A useful technique is to ask the visiting or visited family members to help in carrying out particular activities with the child. It is important that the activity not be seen as a lesson in which the child must learn something and deserves punishment for failure, but instead simply as an engaging activity in which learning is incidental to a total gratifying experience.

To facilitate the involvement of parents in such non-school-like educational activities, it is desirable to provide a library consisting not only of books but

also of toys and games which require the verbal participation of adults and older children, and which can be borrowed for home use for extended periods of time.

Given the evidence for the importance of an intensive, enduring relationship for the development of the young child, it would seem desirable to encourage the formation and maintenance of such relationships and, if possible, evaluate their independent impact. The principal pitfall in this kind of research is the danger of sample bias; that is, mothers who are willing to cooperate in such an endeavor are likely to differ in many important respects from those who, for one reason or another, do not or cannot take part. An appropriate design would therefore require employing two similar but separate groups of mothers and making a special effort with one of these groups to encourage the development of intensive mother-child relationships.

Another challenging area for experimentation and research, subject only to sporadic efforts to date, is the independent contribution to the child's development of involving particular members of the family besides the mother, most notably the father, but also older siblings, grandparents, relatives, etc.

In all research on the effects of family involvement, the primary focus becomes the study of changes in patterns of interaction between family members (especially parents) and the child, and the impact of these changes on the latter's psychological development -- social and emotional as well as cognitive. Even so crude a measure as the amount of time which various family members spend in direct interaction with the child might prove indicative of behavioral change. More instructive, however, in illuminating the nature of the changes taking place would be a series of standardized experimental situations, administered at intervals of several weeks or months, in which the child would be presented with various "problems" (e.g. toys, games, tasks to accomplish) in presence of members

of his family. The focus of observation would be not only the behavior of the child himself but equally the reaction of family members. Do they ignore, discourage, encourage, approve, help, or take over and do it themselves? Changes over time in reaction of family members could be studied both as a dependent variable (i.e., a function of the program being conducted with the parents) and as an independent variable (a factor affecting the behavior and psychological development of the child).

In addition to presenting problems of research design, family involvement poses a difficult dilemma to professional staff. On the one hand, there is the need to expose parents and other family members to new or different ways of dealing with their children. On the other hand, this must be done in such a way as to enhance rather than lower the power and prestige of these persons in the eyes of the child. The second requirement arises from the evidence that the inductive and reinforcing capacity of a model varies directly with the models' status, command over resources, and control of the social environment. An ingenious demonstration of how this dilemma may be resolved was observed at an all-Negro Head Start and Follow Through program in the rural South. Since the local, white dominated school administration refused to have anything to do with the program, it was organized by Negro church groups under the leadership of an 86 year old minister. Several days before the official opening of the program, this man invited all the parents and teen-agers to an orientation meeting - a pass-the-dish picnic in a nearby forest area (a forest which he himself had "planted" years ago with seeds obtained free from the U.S. Department of Agriculture). After the picnic, the minister offered to take the whole group through a tour of the forest. During the walk he would ask adults and teen-agers alike to show him interesting plant and animal life which they observed, give names of flowers, trees, and birds, explain how plants grow, what animals feed on, etc. While drawing out much

information from the group, he also added considerable material from his own experience. At the end of the walk, he turned to the group with a request: "On Sattidy we start our Head Start program. In da afternoon da children need some recreation and da teachers needs a rest. Could you folks bring da children here and tell 'em all da things you know dat dey don't know about da forest?"

The turn-out on Saturday was impressive, and so was the performance of the "instant experts."

D. Neighborhood

The foregoing example also illustrates in dramatic fashion the reinforcing potential of the other people with whom the child frequently associates and identifies - his neighbors. These persons, particularly the adults, and older children who are looked up to and admired by the young, probably stand second only to parents in terms of their power to influence the child's behavior. For this reason it would be important for some Follow-Through programs to try to exploit and evaluate this potential in a systematic way. The most direct approach would be to discover from the families and neighborhoods themselves who are the popular and admired individuals and groups and then to involve them as aides in the program. It may often be the case that the activities in which such individuals or groups normally engage, indeed, the activities for which they are popular, are not those which one would want children to learn about or adopt. This fact should receive due consideration but it should hardly be the determining factor, since the behaviors that matter are those that the model exhibits in the presence of the child. It follows that the activities in which such persons engage as aides, volunteers, etc. must be constructive in nature and reinforce other aspects of the program. They may take a variety of forms: supervising and playing games,exhibiting or teaching a hobby or skill (whittling, playing a musical instrument, magic

tricks etc.). The significant factor is that the activity be seen by the child as part of and supporting all of the things the child is doing "in school."

A second important use of neighborhood resources involves exposing the child to successful models in his own locality -- persons coming from his own background who are productive members of society -- skilled or semi-skilled workers,teachers, government employees, etc. Providing opportunities for such persons to associate with the children (e.g., as escorts, recreation supervisors, part-time aides, tutors, etc.), tell something about their work, and perhaps have the children visit the person at work can help provide a repertoire of possible occupational goals unknown to many children of poverty today.[3]

But how can one secure the participation of people from the neighborhood or across the tracks in spending time with young children? Experience suggests that the problem may not be so difficult as it appears. An announcement in the newspaper, on store bulletin boards, or simply by word of mouth that people are wanted after school or on weekends who like to do things with kids and have something to offer, like a skill or hobby which children will find of interest, is likely to produce more volunteers than are needed. Of course some screening and supervision will be necessary, but a feasible program can readily be developed.

As the foregoing examples clearly indicate, many of the activities that are desirable in a Follow-Through program cannot be conducted only during school hours or solely in a school classroom. To begin with, if the program is to be effective it must influence the child's behavior outside of school as much as in school. Second, a school classroom does not lend itself to many of the kinds of informal activities involving parents, other adults, and older children which have been described above.

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[3] In view of the frequency of father-absence among disadvantaged families and the predominance of female personnel in compensatory programs, the involvement of male adults and teen-agers is highly desirable and deserves systematic evaluation of its contribution to childrens' development, especially in the case of boys.

Accordingly, some kind of neighborhood center becomes a highly desirable feature of any comprehensive Follow-Through program. Such a center would have to be open after school, weekends, and during vacations and would have some staff members on duty at all times. The center should be represented to the community not merely as a place where children go but rather where all members of the community go in the joint interest of themselves and their children. The neighborhood center might be housed in a school building, but, if so, facilities available should include other than traditional classrooms with fixed seats.

Since a neighborhood center is likely to be diffuse and highly variable both in its conception and execution, it poses problems in terms of a research design capable of measuring its generalizable independent contribution to children's development. To control for a generalized "Hawthorne effect" it would have to be compared with an active program similar in other respects but lacking the neighborhood center component. Moreover, to permit generalization, there would have to be more than one neighborhood center in the experimental sample. The magnitude and complexity of such a research operation argues for a more modest approach in which one attempts to evaluate not the global impact of the neighborhood center as a whole but of some specific component in its program; for example, the use of teen-agers as leaders of activities for younger children.

E. The Larger Community

The contribution of the total community to a Follow-Through program is analogous to that of the neighborhood but now with representatives and resources drawn from the larger context. Use can be made both of older children and adults from middle class backgrounds provided they are not the only "competent" models on the scene, for without the example and support of "his own people" the

child's receptivity to what may then be seen as an alien influence is much reduced. It follows that activities by persons or in settings from outside the child's subculture must be heavily interlaced with representatives from his own world who manifestly cooperate in the total effect. This in turn implies close working relationships of mutual respect between workers from within and outside the child's own milieu. Mutual respect is essential in these relationships not merely for the purpose of maintaining a viable learning atmosphere but more importantly to further the constructive development of the child's own sense of identity and worth as a person and as a member of society.

Finally, the most important significance of the total community for the disadvantaged child lies in the fact that many of the problems he faces and the possibilities for their solution are rooted in the community as a whole and are, therefore, beyond the reach of segmental efforts at the level of the neighborhood, the school, or the home. We have in mind such problems as housing, welfare services, medical care, sanitation, police protection, community recreation programs, and the like.

Given this state of affairs, it is a sobering fact that neither in our communities, nor in the nation as a whole, is there a single agency that is charged with the responsibility of assessing and improving the situation of the child in his total environment. As it stands, the needs of children are parcelled out among a hopeless confusion of agencies with diverse objectives, conflicting jurisdictions, and imperfect channels of communication. The school, the health department, the churches, welfare services, youth organizations, the police, recreation programs, all of these see the children of the community at one time or another, but there is nobody that concerns itself with the total pattern of life for children in the community - where, how, and with whom they spend their waking hours and what may be the impact of these experiences on the

development of the child as an individual and as a member of society. An inquiry of this nature would, we believe, reveal some sobering facts which in themselves would suffice to generate concerted action. Accordingly, an important aspect of the Follow-Through program at the level of the total community would be the establishment of a Commission on Children which would have as its initial charge finding out how, where, and with whom the children in the community spend their time. The Commission should include among its members representatives of the major institutions in the community that deal with children, but should also draw in businessmen, parents from all social class levels, as well as the young themselves, teenagers from diverse segments of the community who could speak from recent experience. The Commission would be expected to report its findings and recommendations to appropriate executive bodies and to the public at large.

As a Follow-Through program encompasses ever larger concentric contexts (classroom, school, neighborhood, community), the problems of research design become increasingly more complex. One can of course begin at a simple dichotombus level and compare outcomes in programs including active parent involvement with those lacking this component, or the impact of volunteers solely from the child's own subculture with those from middle class. But even in these seemingly simple designs, considerable attention will need to be given to possible confounding variables (such as different types of interaction engaged in by volunteers from different backgrounds) and expert research consultation will be required.

IV. Some Major Components of a Follow-Through Program: A Summing-Up

We are now in a position to identify the major social and motivational features which, in the light of this analysis, need to be represented in an experimental Follow-Through program. In addition to more traditional and highly essential instructional aspects, such elements should include:

1. Provision for family involvement in activities of the program in school, in the neighborhood center, and in the home, with emphasis on direct interaction with the child and on the strengthening of enduring emotional ties between the child and the members of his family.
2. Under appropriate supervision, utilization of older children, both as individuals and groups, in activities with younger children both within and outside of school. Such activities might include reading to children, escorting them on outings, playing games, tutoring, sports, etc. In the course of these activities, the development of friendships between older and younger children should be encouraged.
3. Within the classroom and other children's groups, taking advantage of possibilities for heterogeneous grouping, arrangements for mutual aid, and group recognition and approval.
4. Establishing programs at the level of the school rather than the isolated dlassroom so as to be able to involve the entire school community - other pupils, staff members, administrators, etc., as participants and supporters of those most actively engaged in the program, especially the children themselves.
5. Bringing in persons from the child's own neighborhood, as well as other segments of the community who, by demonstrating their competence and

concern, can present the child with appropriate models to emulate.

6. In general, employing the superordinate goal of concern for young children as a means for involving the entire community in an examination of the opportunities it offers to its children and of the ways in which these opportunities can be enhanced and extended to all children and their families.

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